

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Application Review

Issue Date: XXXX XX, 2020

Region: Asheville Regional Office
County: Burke
NC Facility ID: 1200028
Inspector's Name: Patrick Ballard
Date of Last Inspection: 04/16/2020
Compliance Code: 3 / Compliance - inspection

<p style="text-align: center;">Facility Data</p> <p>Applicant (Facility's Name): SGL Carbon LLC</p> <p>Facility Address: SGL Carbon LLC 307 Jamestown Road Morganton, NC 28655</p> <p>SIC: 3624 / Carbon And Graphite Products NAICS: 335991 / Carbon and Graphite Product Manufacturing</p> <p>Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V</p>	<p style="text-align: center;">Permit Applicability (this application only)</p> <p>SIP: 15A NCAC 02D .0503, .0512, 0515, .0516, .0521, .0541, .0949, .0958, .1806, & .0614 NSPS: 15A NCAC 02D .0524 – Subpart Dc NESHAP: 15A NCAC 02D .1111 – Subpart DDDDD PSD: N/A PSD Avoidance: 15A NCAC 02Q .0317 NC Toxics: 15A NCAC 02D .1100 & 02Q .0711 112(r): N/A Other: N/A</p>
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Contact Data			Application Data
<p style="text-align: center;">Facility Contact</p> <p>Dean Ahrens EHS Manager (828) 432-5774 307 Jamestown Road Morganton, NC 28655</p>	<p style="text-align: center;">Authorized Contact</p> <p>Mark Lundblad Plant Manager (828) 432-5700 307 Jamestown Road Morganton, NC 28655</p>	<p style="text-align: center;">Technical Contact</p> <p>Dean Ahrens EHS Manager (828) 432-5774 307 Jamestown Road Morganton, NC 28655</p>	<p>Application Number: 1200028.20A Date Received: 02/26/2020 Application Type: Renewal Application Schedule: TV-Renewal <p style="text-align: center;">Existing Permit Data</p> Existing Permit Number: 03287/T38 Existing Permit Issue Date: 01/02/2020 Existing Permit Expiration Date: 08/31/2020</p>

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2018	219.40	7.13	147.18	377.02	136.41	25.40	20.68 [Polycyclic Organic Matter (Inc)]
2017	179.12	16.19	175.63	275.53	147.31	28.89	25.00 [Polycyclic Organic Matter (Inc)]
2016	201.58	17.71	82.40	115.04	106.99	15.25	13.86 [Polycyclic Organic Matter (Inc)]
2015	204.59	14.38	78.94	115.93	105.92	13.43	11.97 [Polycyclic Organic Matter (Inc)]
2014	217.71	19.97	87.59	158.04	136.13	17.53	16.24 [Polycyclic Organic Matter (Inc)]

<p>Review Engineer: David Hughes</p> <p>Review Engineer's Signature: _____ Date: XXXX XX, 2020</p>	<p style="text-align: center;">Comments / Recommendations:</p> <p>Issue 03287/T39 Permit Issue Date: XXXX XX, 2020 Permit Expiration Date: XXXX XX, 2025</p>
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I. Purpose of Applications

Application No. 1200028.20A

This permitting action is a renewal of an existing Title V permit pursuant to 02Q .0513. The existing Title V permit (**03287T38**) was issued on **January 2, 2020**, with an expiration date of **August 31, 2020**. The renewal application **1200028.20A** was received on **February 26, 2020**, or at least six months prior to the original expiration date **August 31, 2020**. Therefore, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied.

In addition to the request for renewal, the Permittee has requested the following revisions to the updated permit:

1. Remove Condition 2.2 B.1, as the requirements of this condition ended with the commencement of normal operation of Rectifier No. 2, which occurred on August 17, 2018.
2. Remove Condition 2.2 C.1, as the requirements of this condition ended with the commencement of normal operation of Rectifier No. 2, which occurred on August 17, 2018.
3. Remove the language in Condition 2.2 D.1.a (2.2 B.1.a now since 2.2 B.1 and 2.2 C.1 were removed) stating, “beginning with the commencement of the normal operation of Rectifier No. 2”, as this occurred on August 17, 2018, and this language is no longer needed.
4. Correct the control device associated with the carpentry shop woodworking operation (ID No. ES-6B). Emissions from this source are controlled by one fabric filter (200 square feet of filter area) (ID No. CD-6B), not one simple cyclone (ID No. CD-6A-DC1164a) and one fabric filter (8.652 square feet of filter area) (ID No. CD-6A-DC1164b).

II. Facility Description

The Morganton facility is a graphite product manufacturing facility and is classified under SIC code 3624, Carbon and Graphite Products. The processes at the facility include raw material handling and storage, mixing and extrusion, green stock baking, pitch impregnation, stock re-baking, graphitization and product finishing.

At the Morganton facility, extruded and baked carbon stock made primarily of coal tar pitch and petroleum or metallurgical coke undergoes a graphitization process where electrical resistivity is used to convert carbon to graphite. Electrical resistivity was historically supplied by two rectifiers up until November 14, 2002, when one of the rectifiers was transferred to another site. The Morganton site currently utilizes six electric lengthwise graphitizing (LWG) furnaces (**ID Nos. ES-5E.1 through ES-5E.6**) with one associated rectifier (**No. 2**) controlled by one fabric filter (**ID No. CD-5E-S1a**), one RTO (**ID No. CD-5E-S1b**), and one packed tower scrubber (**ID No. CD-5E-S1c**) in series: and six electric lengthwise graphitizing (LWG) furnaces (**ID Nos. ES-5E.7 through ES-5E.12**) with one associated rectifier (**No.1**).

The LWG process consists of open top furnace shells connected by shunt cables. To begin the loading process, a column of stock is assembled and loaded into the LWG furnace. Once the columns are in place in the furnace, they are covered with petroleum coke for insulation. Using a rectifier, the furnace is then electrically fired wherein the carbon columns will reach temperatures of approximately 3000 °C. Firing times vary with the load configuration and the total weight of the material in the furnace and can be anywhere between 15 – 62 hours.

Currently, the Morganton facility produces two (2) types of products, HLM and CAG3. Both products operate within the same range of conditions, however the products vary in terms of

formation, pack media usage, and firing times. The CAG3 product includes silicon carbide and natural graphite as raw materials, which are not used in other products at the facility. Additionally, the CAG3 product requires approximately 200 mm of fresh pack media around the product for each furnace cycle, with dedusted pack media used for the remaining product packaging. Each furnace cycle for the new product consists of approximately 35% new pack media and 65% dedusted pack media. For existing HLM products, the facility typically uses a higher percentage of dedusted pack media in each furnace cycle.

During the firing process, the petroleum coke insulating material generates gaseous emissions including hydrogen sulfide (H₂S), SO₂, VOC, NO_x, and PM. Emission rates are generally temperature dependent, with the highest rates occurring at the highest temperatures.

III. History / Background/ Application Chronology

Permit History Since Last Permit Renewal

September 14, 2015 – Title V Air Permit No. **03287T33** issued. This permit includes renewal of Title V permit. It also included Correction of PM limit for the extrusion boilers (ID Nos. ES-CB230 and ES-PB-233), Removal of reference to a non-existent NO_x PSD avoidance limit for the extrusion boilers; Addition and removal of a few insignificant activities, Addition of all applicable Boiler NESHAP requirements, and CAM revision.

November 3, 2016 – Title V Air Permit No. **03287T34** issued. This minor modification permit indicates Transfer of few units to another, Removal of units which no longer operating, Addition of “DeWalt radial cutoff saw” (No. 18) to ES-5A to replace the “Beyer drill-matie”, Revision/addition of TAP emission limits based on trial testing of new graphite product in the LWG, and Removal of 15A NCAC 02D .0958 requirements.

April 27, 2016 – Title V Air Permit No. **03287T35** issued. This minor modification permit indicates Addition of two new lathes, addition of a new packed media silo controlled by a new bin vent filter (ID No. CD-5M), replacement of fabric filter (ID No. CD-5L-DC101), addition of cooling tower (ID No. IA-CT) as insignificant activity.

January 22, 2018 – Title V Air Permit No. **03287T36** issued. Under this “Part 1” modification, a second rectifier in the graphitization area was added in the permit. It also included a request to utilize a control system consisting of a baghouse, regenerative thermal oxidizer (RTO), and scrubber in series as needed to control emissions from the graphitizing furnaces.

March 19, 2019 – Title V Air Permit No. **03287T37** issued. This minor modification permit indicates modification in the recordkeeping of re-graphitized CAG3 and HLM.

January 2, 2020 – Air Permit No. **03287T38** issued as a Title V Significant Modification Part II.

February 26, 2020 – DAQ received Permit Application 1200028.20A, which is a Title V renewal. The application was deemed complete for processing.

April 16, 2020 – Patrick Ballard of the Asheville Regional Office completed the annual compliance inspection of the facility.

September 25, 2020 - DRAFT permit sent to Permittee, Supervisor, ARO and Samir Parekh for comment. Mark Lundblad provided minor comments via e-mail on **XXXX XX, 2020**. Nicole Saniti, P.E. provided comments on draft permit and review via e-mail on **October 1, 2020**. Samir Parekh of

RCO states via e-mail on **October 2, 2020** that he has reviewed the draft permits and has no comments. Asheville Regional Office had no comments.

Date – Draft permit and review sent to 30-day public comment and 45-day EPA review periods.

Date – 30-day public comment period ended.

Date – 45-day EPA comment period ended.

Date – Permit Issued.

IV. Permit Modifications/Changes and ESM Discussion

Page	Section	Description of Change
Cover Letter	N/A	-Updated cover letter with application number, permit numbers, dates, fee class, and PSD increment statement.
Permit Letter	N/A	-Inserted new issuance and complete application date, application number, facility information.
	Section 1 Table	-Updated control device for emission source ES-6B to One Fabric Filter (200 square feet of filter area) (ID No. CD-6B).
4-6	2.1 A	-Updated permit language to match current shell version of TV Permit Conditions.
7	2.1 B	-Updated permit language to match current shell version of TV Permit Conditions.
7	2.1 C	-Updated permit language to match current shell version of TV Permit Conditions.
8	2.1 D	-Updated permit language to match current shell version of TV Permit Conditions.
10	2.1 E	-Updated permit language to match current shell version of TV Permit Conditions.
17	2.1 F	-Updated permit language to match current shell version of TV Permit Conditions.
23	2.1 G	-Updated permit language to match current shell version of TV Permit Conditions.
	2.1 H	-Updated permit language to match current shell version of TV Permit Conditions.
	2.1 I	-Updated permit language to match current shell version of TV Permit Conditions.
	2.1 J	-Updated permit language to match current shell version of TV Permit Conditions.
	2.1 K	-Updated permit language to match current shell version of TV Permit Conditions.
	2.1 L Table	-Removed conditions 2.2 B and 2.2 C, as the requirements of these conditions ended with the commencement of normal operation of Rectifier No. 2, which occurred on August 17, 2018. -Moved 15A NCAC 02D .0530(u): Use of Projected Actual Emissions to Avoid Applicability of Prevention of Significant Deterioration Requirements from Section 2.2 B.

Page	Section	Description of Change
	2.1 L	-Updated permit language to match current shell version of TV Permit Conditions.
	2.1 L.3	-Moved 15A NCAC 02D .0530(u): Use of Projected Actual Emissions to Avoid Applicability of Prevention of Significant Deterioration Requirements from Section 2.2 B.
	2.1 L.3.a	-Removed the language stating “beginning with the commencement of the normal operation of Rectiformer No. 2”, as this occurred on August 17, 2018, and this language is no longer needed.
	2.1 M Table	-Removed condition 2.2 B, as the requirements of this condition ended with the commencement of normal operation of Rectiformer No. 2, which occurred on August 17, 2018
	2.1 M	-Updated permit language to match current shell version of TV Permit Conditions.
	2.1 N	-Updated permit language to match current shell version of TV Permit Conditions.
	2.1 O	-Updated permit language to match current shell version of TV Permit Conditions.
	2.1 P	-Updated permit language to match current shell version of TV Permit Conditions.
	2.1 Q.5	-Updated MACT 5D language from Joe Voelker for two natural gas-fired extrusion boilers (ID Nos. ES-CB230 and ES-PB-233).
	2.2 A.2.b	-Added toxic air pollutant dispersion modeling analysis date and approval by AQAB memo date language.
---	2.2 B	-Removed this condition, as the requirements of this condition ended with the commencement of normal operation of Rectiformer No. 2, which occurred on August 17, 2018
---	2.2 C	-Removed this condition, as the requirements of this condition ended with the commencement of normal operation of Rectiformer No. 2, which occurred on August 17, 2018
	2.2 B	-Replaced 2.2 E. with 2.2 B.
	2.2 C	-Replaced 2.2 F. with 2.2 C.
23 & 24	Section 3.0 General Conditions	-Updated shell conditions to (v5.5 08/25/2020).

There were minor modifications to the equipment descriptions needed in Title V Equipment Editor (TVEE).

V. Regulatory Review

The facility is currently subject to the following regulations:

- 15A NCAC 02D .0503 “Particulates from Fuel Burning Indirect Heat Exchangers”
- 15A NCAC 02D .0512 “Particulates from Miscellaneous Wood Products Finishing Plants”
- 15A NCAC 02D .0515 “Particulates from Miscellaneous Industrial Process”
- 15A NCAC 02D .0516 “Sulfur Dioxide Emissions from Combustion Sources”
- 15A NCAC 02D .0521 “Control of Visible Emissions”
- 15A NCAC 02D .0524 “New Source Performance Standards” (40 CFR Part 60 Subpart Dc)
- 15A NCAC 02D .0614 “Compliance Assurance Monitoring”

15A NCAC 02D .0949 “Storage of Miscellaneous Volatile Organic Compounds”
15A NCAC 02D .0958 “Work Practices for Sources of Volatile Organic Compounds”
15A NCAC 02D .1100 “Control of Toxic Air Pollutants” (*State-Enforceable Only*)
15A NCAC 02D .1111 “Maximum Achievable Control Technology”
(40 CFR Part 63 Subpart DDDDD)
15A NCAC 02D .1806 “Control of Odorous Emissions” (*State-Enforceable Only*)
15A NCAC 02Q .0317 “Avoidance Conditions” (PSD Avoidance)
15A NCAC 02Q .0711 “Emission Rates Requiring a Permit” (*State-Enforceable Only*)

An extensive review for each applicable regulation is not included in this document, as the facility’s status with respect to these regulations has not changed. For a discussion of NSPS, MACT, PSD and CAM requirements, see Section VI below. The permit will be updated to reflect the most current stipulations for all applicable regulations.

VI. NSPS, NESHAPS/MACT, PSD, 112(r), CAM

NSPS

The Permittee is subject to 15A NCAC 02D .0524: New Source Performance Standards (NSPS), 40 CFR Part 60, Subpart Dc “Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units”.

NSPS Subpart Dc regulates small steam generating units with maximum heat input capacities greater than 10 million Btu per hour (MMBtu/hr) and less than or equal to 100 MMBtu/hr for which construction, modification, or reconstruction was commenced after June 9, 1989.

There are two natural gas-fired extrusion boilers (ID Nos. ES-CB230 and ES-PB-233) at the Morganton facility. Each boiler has a maximum heat input rating of 12.553 MMBtu/hr. Boiler ES-CB230 was installed in 1982, prior to the applicability date of June 8, 1989 and is therefore, not subject to NSPS Subpart Dc. Boiler ES-PB-233 was installed in 2001, after the applicability date of June 9, 1989, and therefore, subject to NSPS Dc.

There are no applicable emission standards or monitoring requirements specified for natural gas combustion in this rule. Since Boiler ES-PB-233 fires only natural gas, the unit is only subject to the initial notification and monthly fuel recordkeeping requirements in the 40 CFR 60.48c(a) and 40 CFR 60.48c(g), respectively.

The facility also operates four natural gas-fired hot oil heaters (I-Oilheaters.1 through I-Oilheaters.4). Each heater has a maximum heat input rating of 1.269 MMBtu/hr, which is below the NSPS Subpart Dc applicability threshold. Therefore, NSPS Subpart Dc does not apply to these units. This permit renewal does not affect this status.

NESHAPS/MACT

The Permittee is subject to 15A NCAC 02D .1111: Maximum Achievable Control Technology (MACT), 40 CFR Part 63 Subpart DDDDD “National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters”.

The Morganton facility is currently a major source of HAP and operates two extrusion boilers (ID Nos. ES-CB230 and ES-PB-233), four pitch impregnation preheaters (ID Nos. ES-4A-1 through ES-4A-4) and four hot oil heaters (ID Nos. I-Oilheaters.1 through I-Oilheaters.4) that meet the definition of boiler or process heaters as defined in 40 CFR 63.7575. Each of these units that are existing units

under the Boiler MACT and are permitted to burn natural gas. These boilers meet the definition of “units designed to burn gas 1”, as stated below:

Units designed to burn gas 1 subcategory includes any boiler or process heater that burns only natural gas, and/or other gas 1 fuels. Gaseous fuel boilers and process heaters that burn liquid fuel for periodic testing of liquid fuel, maintenance, or operator training, not to exceed a combined total of 48 hours during any calendar year, are included in this definition. Gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply interruptions of any duration are also included in this definition.

Gas 1 boilers are not subject to any emission limits in Table 2 of Subpart DDDDD, however, gas 1 boilers are subject to the work practice standards in Table 3 of Subpart DDDDD and general recordkeeping and reporting. This includes:

1. An annual tune-up for each boiler greater than 10 MMBtu/hr (ID Nos. ES-CB230 and ES-PB-233);
2. Tune-ups every five years for each boiler less than 5 MMBtu/hr (ID Nos. I-Oilheaters.1 through I-Oilheaters.4, ES-4A-1 through ES-4A-4);
3. A one-time energy assessment at the facility;
4. A notification of compliance report and semi-annual compliance reports;
5. A notification of alternative fuel use for each period of natural gas curtailment or supply interruption; and
6. Records of fuel usage and the total hours per year that the unit operated during periods of natural gas curtailment or supply interruption.
7. Records of the type(s) and amount(s) of fuels used during each startup and shutdown.

A summary of the requirements that apply to the boilers in the gas 1 subcategory are detailed in Table 1.

Table 1. Boiler MACT Regulatory References: Gas 1 Subcategory

Work Practice Standards, Emission/Operating Limits	Recordkeeping	Reporting/Notifications
§63.7500(a)(1)	§63.7555(a)	§63.7530(e)-(f)
§63.7500(a)(3)	§63.7555(h)	§63.7540(b)
§63.7500(e)	§63.7555(a)	§63.7530(e)-(f)
§63.7515(d)	§63.7560(a)-(c)	§63.7545(a)
§63.7540(a)		§63.7545(e)-(f)
§63.7540(a)(10), (13)		§63.7550(a)-(c)
§63.7540(a)(12)		§63.7550(a)-(c)
Table 3 – Item (1) or (3) & (4)		Table 9 – Item (1)

The language for 2.1 Q.5.d and g (Compliance Dates for initial tune up and energy assessment) and 2.1 Q.5.e (Notification of Compliance Status) has been updated to reflect that these requirements have been met. The initial tune-up was completed on October 29, 2015, the one-time assessment was completed on November 11, 2015, and the Notification of Compliance Status was completed on February 09, 2016. This permit renewal does not affect this status.

PSD

The federal PSD program is codified under 40 CFR 52.21 and incorporated into the North Carolina State Implementation Plan (SIP), with amendments under 15A NCAC 02D .0530. This program

regulates emissions from “major” stationary sources of regulated pollutants. Under these regulations, a major stationary source is defined as any of the following:

- The facility belongs to one of the 28 named source categories in 40 CFR 52.21 (b)(1)(i)(a) and has the potential to emit 100 tons per year (tpy) of any pollutant subject to the regulations; or,
- The facility has the potential to emit 250 tpy or more of any pollutant subject to the regulations, regardless of its source category.

Graphite product manufacturing is not included in the list of 28 source categories. Thus, the major source threshold under the PSD program for any regulated NSR pollutant other than GHG emitted at the Morganton facility is 250 tpy. The potential emissions of multiple regulated pollutants at the Morganton facility currently exceed 250 tpy. Therefore, the Morganton facility is currently classified as an existing major source under the PSD permitting regulations. The permit renewal does not affect this status.

In addition to being classified as an existing major source under PSD, the facility is currently subject to a permit condition pursuant to 15A NCAC 02D .0530(u). This condition was placed in the permit with the issuance of permit No. **03287T36** for the addition of the construction and operation of rectifier (No. 2) and construction and operation of the optional control system consisting of a fabric filter (**ID No. CD-5E-S1a0**), RTO (**ID No. CD-5E-S1b**) and scrubber (**ID No. CD-5E-S1c**) in series installed on six LWG furnaces (**ID Nos. ES-5E.1 through ES-5E.6**). At that time, the Permittee made a demonstration that the modification did not trigger PSD using a projected actual emission minus baseline actual emissions (PAE-BAE) calculations. The current permit includes a five-year recordkeeping and reporting requirements. The permit renewal does not affect this status.

112(r)

The facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store one or more of the regulated substances in quantities above the thresholds in the Rule. This permit renewal does not affect this status.

CAM

Under the Compliance Assurance Monitoring (CAM) regulations at 40 CFR 64, facilities are required to prepare and submit monitoring plans for certain emissions units with the initial or renewal Title V Operating Permit application. CAM plans are intended to provide an on-going and reasonable assurance of compliance with emission limits. Pursuant to 40 CFR 64.2, the provisions of the Compliance Assurance Monitoring (CAM) rule are applicable to emission units that meet all of the following criteria:

- Criteria #1: The unit is subject to an emission limitation AND uses a control device to achieve compliance with the limit;
- Criteria #2: The unit has pre-control potential emissions that are equal to or greater than 100% of the amount (in tpy) required for a source to be classified as a major source (i.e., 100 tpy of any criteria pollutant or 10 tpy of any HAP); and,
- Criteria #3: The unit is not exempt under 40 CFR 64.2(b).

The CAM rule requires owners and operators to maintain their control devices at levels that assure compliance, to design CAM plans around current requirements and operating practices, and to select representative parameters upon which compliance can be assured. The CAM plan establishes indicator ranges or procedures for setting the indicator ranges, uses performance testing and other information to verify the parameters and ranges, and seeks to correct control device performance

problems as expeditiously as possible. The following emission sources and control devices require a CAM plan:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-1B CAM	Three extrusion mix coolers.	CD-1B-02-ESP	One electrostatic precipitator (4,877 square feet of collecting plate area)
ES-1C CAM	Building #2 materials handling operations	CD-1C-DC225	One fabric filter (2,120 square feet of filter area)
ES-1G CAM	Scrap stock crushing operation	CD-1G-DC220	One fabric filter (3,848 square feet of filter area)
ES-1J.1 through ES-1J.3 CAM	Three 1,000 pound Sigma mixers (2,000 pounds per hour total maximum design process weight rate) with associated internally vented fabric filters, one each	CD-1B-02-ESP	One electrostatic precipitator (4,877 square feet of collecting plate area)
ES-1L.1 ES-1L.2 CAM	One Sigma Blade Mixer One rotary cooler	CD-1B-02-ESP	One electrostatic precipitator (4,877 square feet of collecting plate area)
ES-2A CAM	One steel shot blast electrode cleaning machine (Building 56)	CD-2A-DC-5624	One fabric filter (1,260 square feet of filter area)
ES-2B CAM	One small-round cleaning operation and media preparation serving baking furnace Nos. 10 through 19 (Building 13)	CD-2B-DC427	One fabric filter (3,090 square feet of filter area)
ES-2C ES-2M CAM	Two steel shot blast electrode cleaning operations (Building 47)	CD-2C-DC425	One cartridge-type fabric filter (4,944 square feet of filter area)
ES-2F CAM	Furnace packing media recycling processes (Building 55)	CD-2F-DC5524	One fabric filter (6,500 square feet of filter area)
ES-5A CAM	Graphite Department Equipment	CD-5A-DC2324	One fabric filter (10,260 square feet of filter area)
ES-5M CAM	-Supersack unloading		
ES-5I CAM	Packing media recycling process line	CD-5I-DC2474	One fabric filter (11,016 square feet of filter area)
ES-5J CAM	Stock machining and conveying line	CD-5J-DC5803	One fabric filter (813 square feet of filter area)
ES-5L CAM	LWG media crusher system (Building 10)	CD-5L-DC101	One fabric filter (1,829 square feet of filter area)

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-6A CAM	Graphite finishing operation	CD-6A-DC1164a	One simple cyclone
		CD-6A-DC1164b	One fabric filter (8,652 square feet of filter area)
ES-6B CAM	Carpentry shop woodworking operation	CD-6B	One fabric filter (200 square feet of filter area)

SGL reviewed CAM applicability for the emission sources at the Morganton facility to identify any changes from the CAM Plan submitted in the previous renewal application (Application No. 1200028.14A, Air Permit No. 03287T33). No updates to the CAM Plan are required at this time. SGL will continue to comply with the requirements of the plan as outlined in the permit in Section(s) 2.2 B. and C. This permit renewal does not affect this status.

VII. Facility Wide Air Toxics

15A NCAC 02D .1100: "Control of Toxic Air Pollutants" – State Enforceable Only

The facility as a whole is subject to this State-Only requirement. Pursuant to 15A NCAC 02D .1100 "Control of Toxic Air Pollutants," and in accordance with the approved application for an air toxics compliance demonstration, the following permit limits shall not be exceeded:

Emission Source(s)	Toxic Air Pollutant(s)	Emission Limit(s)
Facility-wide	Hydrogen Sulfide	317.3 lbs/day
Facility-wide	Carbon Disulfide	105.3 lbs/day
Facility-wide	Methyl Mercaptan	1.38 E-1 lbs/hr
Facility-wide	Benzene	174.62 lbs/year

The submitted air pollutant dispersion modeling analysis (March 4, 2016) was reviewed and approved by Daryl Grassick, Meteorologist II, Air Quality Analysis Branch (AQAB), on March 22, 2016 which resulted in the following impacts:

Pollutant	Averaging Period	Concentration at Property Boundary $\mu\text{g}/\text{m}^3$	AAL $\mu\text{g}/\text{m}^3$	% AAL
Hydrogen Sulfide	24-Hour	116.14	120.0	96.78%
Carbon Disulfide	24-Hour	38.58	186.0	20.74%
Methyl Mercaptan	1-Hour	5.80	50.0	11.60%

Since none of the toxic air pollutants emitted exceed either their respective TPER or subsequent AAL, DAQ has determined that there is not an unacceptable risk to human health resulting from activities at the facility.

State-enforceable only

3. 15A NCAC 02Q .0711: EMISSION RATES REQUIRING A PERMIT – Pursuant to 15A NCAC 02Q .0711 “Emission Rates Requiring a Permit,” for each of the below listed toxic air pollutants (TAPs), the Permittee has made a demonstration that facility-wide actual emissions do not exceed the Toxic Permit Emission Rates (TPERs) listed in 15A NCAC 02D .0711. The facility shall be operated and maintained in such a manner that emissions of any TAPs from the facility, including fugitive emissions, will not exceed TPERs listed in 15A NCAC 02Q .0711.

- a. A permit to emit any of the below listed TAPs shall be required for this facility if actual emissions from all sources will become greater than the corresponding TPERs.
- b. PRIOR to exceeding any of these listed TPERs, the Permittee shall be responsible for obtaining a permit to emit TAPs and for demonstrating compliance with the requirements of 15A NCAC 02D .1100 “Control of Toxic Air Pollutants”.
- c. In accordance with the approved application, the Permittee shall maintain records of operational information (written or electronic format) demonstrating that the TAP emissions do not exceed the TPERs as listed below:

Pollutant (CAS Number)	TPERs Limitations			
	Carcinogens (lbs/year)	Chronic Toxicants (lbs/day)	Acute Systemic Toxicants (lbs/hour)	Acute Irritants (lbs/hour)
Methylene chloride (75-09-2)	1600		0.39	
Methyl ethyl ketone (78-93-3)		78		22.4
Nickel metal (7440-02-40)		0.13		
Nickel, soluble compounds, as nickel		0.013		
Toluene (108-88-3)		98		14.4
Trichlorofluoromethane (75-69-4)			140	
Xylene (1330-20-7)		57		16.4

The facility has also demonstrated per 15A NCAC 02Q .0711 that facility-wide actual emissions of the TAPs listed below do not exceed their respective Toxic Permitting Emission Rates (TPERs). A permit to emit any of these pollutants shall be required if actual emissions from all sources exceed their corresponding TPERs. This permit renewal does not affect the status of these permit conditions.

VIII. Facility Emissions Review

Pollutant	Uncontrolled Emissions		Controlled Emissions	
	(lb/hr)	(tpy)	(lb/hr)	(tpy)
PM	3,961.61	10,028.81	1,664.00	370.66

PM ₁₀	3,899.86	10,022.45	1,663.58	369.33
PM _{2.5}	3,267.36	10,019.78	1,031.39	367.99
CO	234.75	1,028.16	135.36	592.83
NO _x	5.19	22.67	6.29	22.67
SO ₂	178.37	781.25	136.51	597.91
VOC	109.88	481.26	63.17	276.67
CO _{2e}	55,782.81	244,277.46	55,782.85	244,277.46
Max Single HAP	28.31	123.98	9.42	41.26
Total HAP	35.40	155.05	9.82	43.01

See Table in the header for a summary of the actual emissions as reported to DAQ from the years 2014 to 2018.

02Q .0512, Permit Shield And Application Shield

The Permit Shield for Non-applicable Requirements was added to permit revision 0328T27 (Application No. 1200028.08C) by Judy Lee for PSD Avoidance with the following language:

2.3 - Permit Shield for Nonapplicable Requirements

The Permittee is shielded from the following nonapplicable requirements [15A NCAC 02Q .0512(a)(1)(B)].

A. Provided the Porous Carbon Process and associated controls are properly operated and maintained, 15A NCAC 02Q .0317 for 02D .0530 (PSD) is not applicable to the process (ID Nos. ES-1M-A and ES-1M-B) since the PM/PM₁₀ emissions will remain under 25/15 tpy.

IX. Stipulation Review

The facility was last inspected by Patrick Ballard on **April 16, 2020**. Based on his observations the facility appeared to be in compliance with their Title V permit requirements.

X. Affected State(s) Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with 15A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA. Also, pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice is provided to the public under 02Q .0521.

XI. Conclusions, Comments, and Recommendations

A professional engineer's seal was not required for this renewal application.

A zoning consistency determination was not required for this renewal application.

ARO recommends issuance of the permit and was sent a DRAFT permit prior to issuance (See Section III of this document for a discussion).

RCO concurs with ARO recommendation to issue the significant modification air permit.